

## **Fish and Wildlife Commission – Fish Committee (01/15/2020)**

### **Agenda Item: Dungeness Crab**

#### **TREATY TRIBES INITIATIVES REGARDING RECREATIONAL CRAB FISHERY MANAGEMENT AND F&W COMMISSION POLICY C-3609**

##### **Tribal initiatives that would require policy revision**

1. Change Crab Policy to allow 1-week closure periods, rotated between crab management regions, to allow for longer windows for exclusive tribal crab openings during the summer.
2. Provide flexibility in Crab Policy for WDFW managers to change fishing schedules in-season.
3. In areas with high recreational catch, change Crab Policy to allow crabbing for 4 days per week to limit recreational catch and provide 3 exclusive harvest days for tribes.
4. Change Crab Policy to allow commercial clean-up fisheries following recreational harvest in all Crab Regions. This would provide more flexibility to increase quotas at the end of the recreational season, if abundance supports an increase.

##### **Tribal initiatives that would not require policy revision**

5. Coordinate with tribes annually in order to discuss and identify crab (and shrimp) recreational fisheries open and close dates.
6. Require two recreational reporting periods during the summer recreational fishery; one mid-season and one at the end of the summer season. The addition of the mid-season catch reporting would help both the state and the tribes with adjusting schedules and strengthening seasonal harvest expectations.
7. Expand creel surveys and collect crab weight measurements to improve recreational catch estimates.

##### **Areas of Commission crab policy affected by tribal proposals**

Tribal initiative #1. This initiative conflicts with Policy C-3909 General Policy Statement which provides for a 5-day-per-week base recreational crab fishery season from July through Labor Day. One week closures during the summer season would not fulfill the weekly fishery guidance provided by policy.

Tribal initiative #2. This initiative may conflict with Policy C-3909 General Policy Statement which provides for a 5-day-per-week recreational crab fishery from July through Labor Day. There is some flexibility in which week days are chosen to open for the 5 open days per week, but policy directs that weekends must be included as part of the open days. The current norm, that the recreational community expects, is to close recreational crabbing on Tuesdays and Wednesdays.

Tribal initiative #3. This initiative conflicts with Policy C-3909 General Policy Statement which provides for a 5-day-per-week base recreational crab fishery season from July through Labor Day.

Tribal initiative #4. This initiative conflicts with Policy C-3909 Policy Guidelines which states that Crab Regions 4, 5, and 6 will be managed for the exclusive benefit of the recreational fishery. These Crab Regions align with Central Puget Sound (MA 10), Hood Canal (MA 12) and Vashon Island (MA 11) respectively.

## **EXECUTIVE SUMMARY**

Dungeness crab catch information from recent years indicates that both state and tribal shares of quota are fully utilized. Tribal harvest can begin when crab hard shell criteria have been met in the spring and may continue (unimpeded by state commercial and recreational fisheries) until early July when the state recreational fishery begins. The tribes have various crab harvest strategies depending upon region. In some regions, the tribes schedule harvest before and after the summer recreational fishery. In other regions, the tribes take a portion of their share of quota concurrent with the summer recreational fishery. When tribes do harvest crab within the summer recreational season, the majority of catch is landed on days when the recreational fishery is open (Thursday through Monday). The exception is Crab Regions 2W and 5, where the majority of landings are on days when the recreational fishery is closed (Tuesday and Wednesday).

The tribes have proposed to WDFW altering the current state summer recreational crab fishery. Four of these proposals would require a revision to current Commission policy. Two tribal proposals (#1 and #3) recommend reductions in recreational fishing opportunities via week-long closures or limiting the number of harvest days per week. One tribal proposal (#2) is more general and recommends giving biological managers within WDFW more flexibility to alter fishery openings and closures. One tribal proposal (#4) recommends allowing commercial clean-up fisheries in regions currently closed to state commercial harvest. Tribal proposals # 4, 5, and 6 recommend better coordination in setting opening dates for all shellfish fisheries, requiring in-season (summer) reporting of Dungeness crab catch, and increased biological work to fine tune recreational harvest estimates. These proposals fall within the scope of responsibilities assigned to biological managers, and can be addressed without revising Commission policy. In the fall of 2019, preliminary fishery opening dates for recreational shellfish fisheries were provided to all tribes. In-season reporting (potentially using CRCs) poses some technical and statistical challenges that are being considered by staff. Work on verifying crab weights by region began in 2019 in Crab Region 2E and the agency plans to conduct this work in other regions on a rotating basis. Part of the crab weight work and planned CRC verification work involves expanded creel sampling.

## **BACKGROUND**

F&W Commission Policy C-3609 prescribes a base summer recreational fishery from July through Labor Day. F&W Commission Policy C-3609 has been in effect since 2010 (9 crab seasons).

Tribal opportunity, using percentage of total harvest as an indicator, has been on par with state harvest over the last 10 years (2009-2019), Table 1 below.

**Table 1. State and Treaty Tribe Dungeness crab landings over the last 10 years.**

| AREA              | Season           | STATE            |                  |                  | TREATY           | TOTAL ALL     | PERCENTAGE    |        |
|-------------------|------------------|------------------|------------------|------------------|------------------|---------------|---------------|--------|
|                   |                  | COM              | REC              | BOTH             |                  |               | STATE         | TREATY |
| PUGET SOUND TOTAL | 2009-10          | 3,036,604        | 1,459,405        | 4,496,009        | 4,425,065        | 8,921,074     | 50.40%        | 49.60% |
|                   | 2010-11          | 2,574,496        | 1,854,956        | 4,429,452        | 4,323,824        | 8,753,276     | 50.60%        | 49.40% |
|                   | 2011-12          | 2,601,945        | 2,575,863        | 5,177,808        | 5,164,423        | 10,342,231    | 50.10%        | 49.90% |
|                   | 2012-13          | 2,315,833        | 2,103,589        | 4,419,422        | 4,726,024        | 9,145,446     | 48.30%        | 51.70% |
|                   | 2013-14          | 2,505,379        | 2,074,534        | 4,579,913        | 4,781,652        | 9,361,565     | 48.90%        | 51.10% |
|                   | 2014-15          | 2,797,034        | 2,429,873        | 5,226,907        | 5,414,445        | 10,641,352    | 49.10%        | 50.90% |
|                   | 2015-16          | 3,101,939        | 2,796,411        | 5,898,350        | 5,959,718        | 11,858,068    | 49.70%        | 50.30% |
|                   | 2016-17          | 2,913,625        | 2,381,240        | 5,294,865        | 5,353,105        | 10,647,970    | 49.70%        | 50.30% |
|                   | 2017-18          | 2,877,587        | 1,764,633        | 4,642,220        | 4,721,169        | 9,363,389     | 49.58%        | 50.42% |
|                   | 2018-19          | 3,036,611        | 1,585,956        | 4,622,567        | 4,601,895        | 9,224,462     | 50.11%        | 49.89% |
| 10 Yr AVG         | <b>2,776,105</b> | <b>2,102,646</b> | <b>4,878,751</b> | <b>4,947,132</b> | <b>9,825,883</b> | <b>49.65%</b> | <b>50.35%</b> |        |

**Analysis of tribal initiatives**

Tribal initiative #1. When formulating Commission crab policy it was recognized that delaying the start of recreational crabbing until July 1 provided the tribes with an opportunity to an exclusive first harvest opportunity of the season. Depending on crab hard shell condition, the tribes have approximately one month of crabbing opportunity before the recreational fishery begins. This pre-emptive harvest has been a bane of recreational harvesters and WDFW frequently hears complaints about tribes always harvesting first. It was also recognized that tribes have unencumbered fishing opportunity during the month of September, except in the San Juan Islands where recreational harvest begins later than July 1 and extends through the end of September. In the San Juan Islands there is a later start to the recreational season based on historic softshell in the late spring/early summer, which is the reason for extending this fishery into September (*i.e.* providing the same length of recreational opportunity between regions when resource is available to harvest). The shifted summer recreational harvest season in the San Juan Islands is part of the co-management harvest plan. Tribal crabbing can occur unencumbered by recreational harvesters after the winter recreational harvest season closes January 1. Tribal crabbing can also occur on recreational closed days in the summer. Tribal harvest openers are often only 1 or 2 days due to significant effort. There is also opportunity to fish “side-by-side” with recreational harvesters, but there have been reports of gear conflicts during simultaneous crabbing.

Closing recreational crab harvest for one week during the summer season will necessitate adding harvest days before or after the traditional season to maintain the same level of recreational opportunity. An alternative is to add harvest days to the fishing week, bumping it up to 6 days-per-week. Rotating the closed week from region to region may degrade the message about a consistent season and cause shifts in effort from region to region. We don’t know the ultimate effects of this shifting effort until after it occurs. Because abundance changes dramatically from region to region, shifts in effort may have significant impacts in areas with lower abundance. An unintended consequence may be exceedance of quota in lower abundance areas. Changing the certainty

surrounding a standard fishing season may result in increased closed season crabbing violations for recreational harvesters.

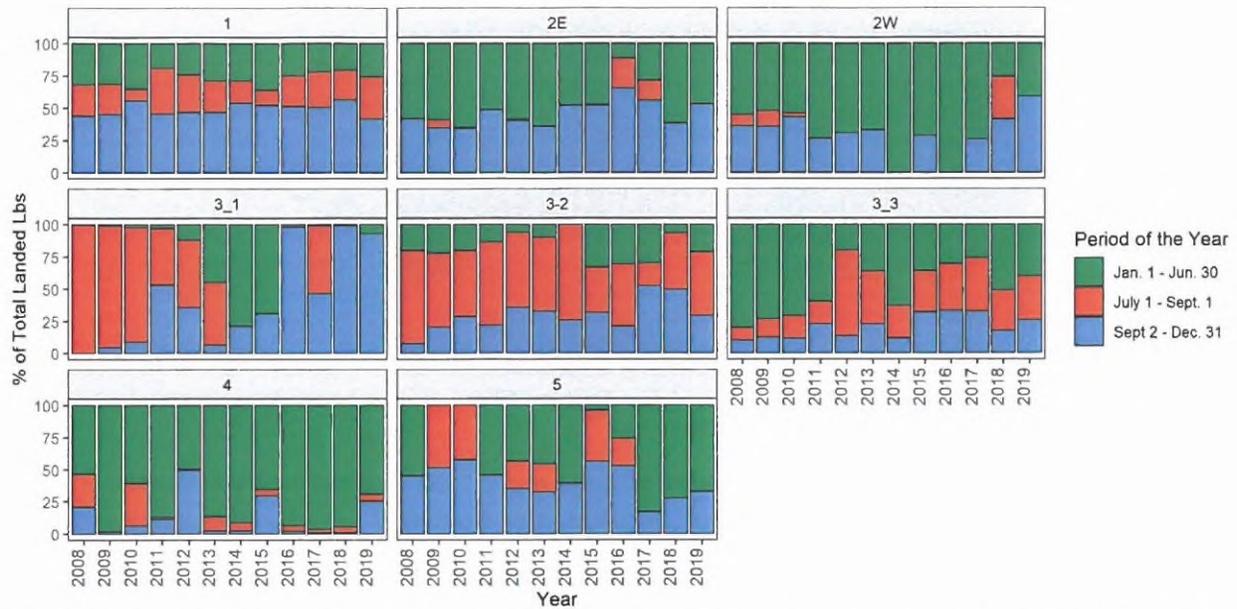
Tribal initiative #2. There is nothing inherently wrong in giving managers more flexibility to open or close fisheries in-season. Crab management uses the 3-S system, which limits the total take based on available legal sized male Dungeness crab. To achieve equity principles, a quota system is also used to target 50:50 sharing of crab resources on a regional scale. The current strategy is to plan the season well in advance to bring certainty to harvest management plans and the recreational community. In-season changes can still occur in consultation with the Director and Commission, when needed. In 2019 a shortened season was announced in MA 10 to limit recreational opportunity. This shortened season was planned well in advance, messaged to the recreational harvest community and was done in consultation with the Director and Commission.

Tribal initiative #3. Similar to reducing the recreational crab season, example given in Tribal Initiative #2 above, effort reducing strategies such as 4 day per week openings could be accomplished by providing managers with more in-season management flexibility or through advance planning in consultation with the Director and Commission. This type of strategy can be forecast, planned, and messaged to the Commission and public well in advance of the summer crab season without making a policy change.

Tribal initiative #4. Commercial clean-up of remaining quota share, after the recreational season has closed, has been successfully utilized in the spot shrimp fishery. With 249 crab licenses, it would be more challenging to conduct a fine-tuned targeted fishery. License limits, pot limits, and short-duration openings may all need to be employed to conduct commercial clean-up crab fisheries. Commercial clean-up may provide managers with a tool to fine tune utilization of state shares of quotas. For example, in Commission Shrimp Policy C-3610, commercial clean-up fisheries are allowed after recreational harvest is complete, to take remaining quota. In Hood Canal (Crab Region 5), there is currently an imbalance between treaty tribe and recreational crab harvest, and recreational effort will only make up a small portion of this imbalance. A commercial clean-up fishery would bring the allocation closer to equity between the state and tribes, and may assist in better optimization of the crab resource. In shrimp policy, commercial clean-up has an upper limit, represented by the percentage of quota. For example, in Hood Canal the commercial shrimp harvest can only be 5% of the state quota.

### **Tribal crab fishing patterns**

The timing of tribal crabbing varies widely between crab regions. In Crab Region 2E (Marine Area 8-1, 8-2, inside waters of Whidbey Island)(Figures 1 & 5), there is a relatively high abundance of Dungeness crab close to a high-density human population center (North Seattle area). In this Region, tribal Dungeness crab harvest occurs before and after the recreational summer season, with tribal quota roughly split between the two harvest periods. There are only a few years (2008, 2016, 2017) when the tribes with rights in Region 2E harvested crab during the summer recreational fishery season, but only a small proportion of their quota share.



**Figure 1. Proportion of tribal landings that occur before, during and after the state recreational fishery by region and year between 2008 and 2019. Data obtained from WAFT catch accounting system.**

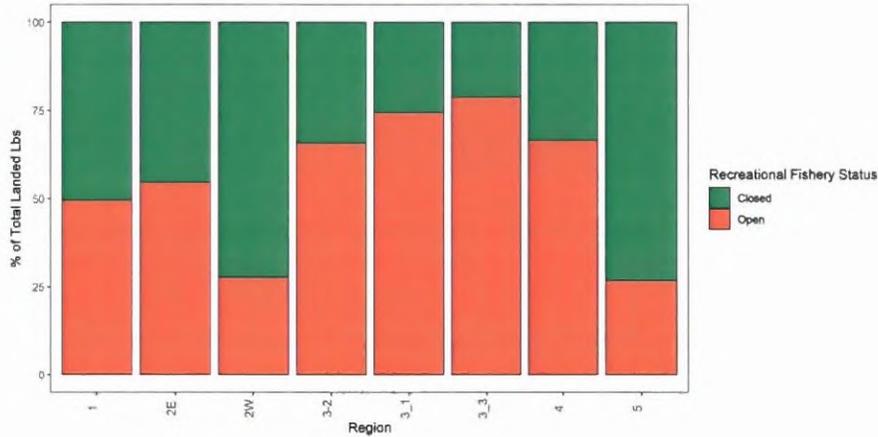
In some Crab Regions with lower abundance (Regions 2W and 4, which align with most of Marine Area 9 and all of Marine Area 10 in Central Puget Sound) the majority of tribal harvest occurs before the summer recreational crab season, with limited harvest during the summer recreational crab season, and a smaller portion of the tribal share of the quota taken after the summer recreational crab season.

In Crab Region 5 (mostly Marine Area 12 - Hood Canal and a portion of Marine Area 9), the tribal harvest strategy has varied over time with harvest roughly split between before and after the summer recreational season (2008, 2011, 2014); harvest split between concurrent with and after the summer recreational season (2009, 2010); a mix of before, during and after the summer recreational season (2012, 2013, 2015, 2016); and a majority of harvest before and a smaller proportion taken after the summer recreational season (2017, 2018, 2019).

In Crab Regions that are adjacent to more rural areas or are more exposed to high wind, current, and waves (Region 1 in the San Juan Islands and Regions 3-1, 3-2, 3-3 in the Strait of Juan de Fuca), tribal harvests occur before, during and after the summer recreational harvest season. In Region 1, about 50% of the tribal harvest quota is taken before and during the summer recreational season and 50% after.

This information shows that the timing of tribal crab harvest varies not only between Crab Regions, but in some regions harvest varies within the regions over time.

We can also look at the timing of tribal harvest within the recreational summer harvest season. Again, there is variability between regions. On average, 50% or more of tribal harvest occurred on days when the recreational fishery was open in Crab Regions 1, 2E, 3-1, 3-2, 3-3, and 4 (Figure 2).



**Figure 2. Proportion of tribal landings occurring on open and closed days during the summer recreational fishery, between 2008 and 2019. Data obtained from WAFT catch accounting system.**

In Crab Regions 2W and 5, over 50% of the tribal crab harvest occurred on days when the recreational fishery was closed.

### Recreational fishing patterns

Guided by F&W Commission Policy C-3609, the state Dungeness crab fishery establishes a recreational only fishery in the summer. This is followed by a closure in September, which is utilized to tabulate catch record cards to make a summer fishery landing estimate. On or about October 1, commercial fishing is opened in Crab Regions 1, 2, and 3 and winter recreational fishing is opened in all regions that have remaining quota. Some regions have proportionally low recreational catch, including Regions 1 and 3. For example, recreational catch ranges between 18 to 27% of the total state share of the quota in Region 1, between 2008 and 2019. Other regions have higher proportions of recreational catch, including Region 2. For example, Region 2E recreational catch ranges between 49 and 80% of the total state share (Table 2). The summer estimate of recreational harvest informs remaining share of quota available for commercial harvest and whether, or not, a winter recreational fishery will open.

**Table 2. Recreational harvest of Dungeness crab in Crab Region 2E in pounds and proportion of state share of quota between 2008 and 2019. Season 2019-20 is in process.**

| Season  | Region | State Share | Summer Rec. Pounds | Summer % Harvested | Winter Rec. Pounds | Winter % Harvested | Season Rec. Pounds | % of State Share Harvested by Rec. |
|---------|--------|-------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------------------------------|
| 2008-09 | 2E     | 1,000,000   | 504,410            | 50%                | 90                 | 0%                 | 504,500            | 50%                                |
| 2009-10 | 2E     | 1,075,000   | 523,519            | 49%                | 861                | 0%                 | 524,380            | 49%                                |
| 2010-11 | 2E     | 1,150,000   | 585,276            | 51%                | 255                | 0%                 | 585,281            | 51%                                |
| 2011-12 | 2E     | 1,300,000   | 978,215            | 75%                | 56,321             | 4%                 | 1,034,536          | 80%                                |
| 2012-13 | 2E     | 1,200,000   | 614,771            | 51%                | 23,440             | 2%                 | 638,211            | 53%                                |
| 2013-14 | 2E     | 1,275,000   | 633,990            | 50%                | 55,724             | 4%                 | 689,715            | 54%                                |
| 2014-15 | 2E     | 1,400,000   | 770,681            | 55%                | 70,013             | 5%                 | 840,694            | 60%                                |
| 2015-16 | 2E     | 1,750,000   | 1,042,242          | 60%                | 87,922             | 5%                 | 1,130,164          | 65%                                |
| 2016-17 | 2E     | 1,400,000   | 886,067            | 63%                | 39,946             | 3%                 | 926,013            | 66%                                |
| 2017-18 | 2E     | 1,250,000   | 678,586            | 54%                | 39,538             | 3%                 | 718,154            | 57%                                |
| 2018-19 | 2E     | 1,100,000   | 627,686            | 57%                | 34,972             | 3%                 | 662,478            | 60%                                |
| 2019-20 | 2E     | 1,300,000   | 689,407            | 53%                |                    |                    |                    |                                    |

**Crab ex-vessel Price and Market Conditions**

Price and market conditions often affect harvest strategy. However, these factors are not identified for consideration of opportunity under federal court orders regarding management of shellfish resources. Principles for sharing shellfish resources under the federal Shellfish Implementation Plan (US v. WA Case #C70-9213, Subproceeding # 89-3) include:

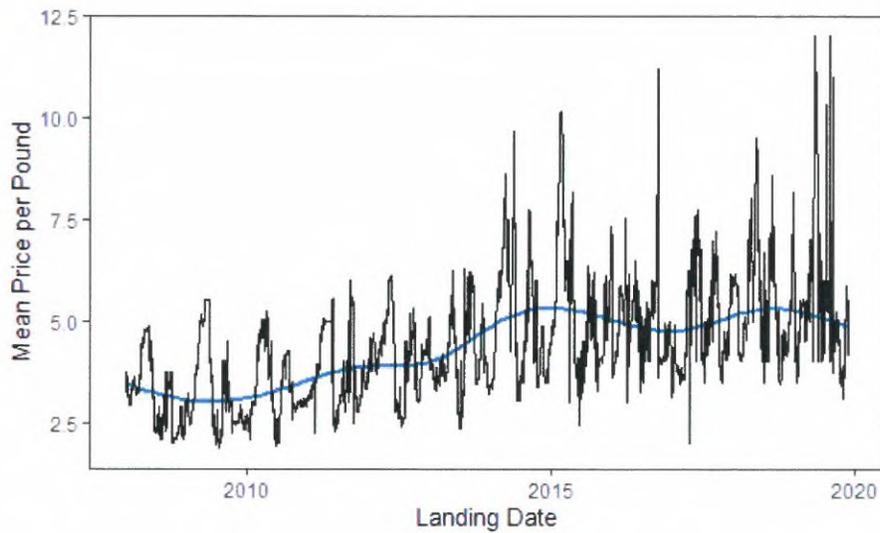
Sect. 2.4. Management Objectives. “Management Objectives” means the objectives of each party to meet their respective share of the harvestable surplus of the resource and the biological goals for the long-term health of the resource.

Sect. 2.5. Sharing Provisions.

a. Sharing Sustainable Harvest Biomass. The sustainable harvest biomass of a shellfish bed or shellfish resource subject to the Treaty right shall be determined on an annualized basis or other agreed periodic basis...

f. Equal Opportunity. In sharing the opportunity for harvest of a shellfish resource, the State and Tribe may also consider the time of fishing, quality of shellfish, ease of harvesting, and catch per unit effort for the shellfish involved to ensure that there is equal sharing of harvest opportunity.

Recognizing that price and market conditions have no status in the biological management and allocation of shellfish resources, we do acknowledge that they can be strong drivers affecting harvest timing. They are also indicators of financial potential to stakeholders. In general, the average ex-vessel daily price per pound (first landed value) has trended upward (Figure 3).



**Figure 3. Average daily price (\$US, uncorrected for inflation) of tribal caught Dungeness crab in Puget Sound from January, 2008 through December 2019. Data from WAFT catch accounting system.**

In recent years, larger proportions of tribal and state crab catch exceed \$5/pound. Figure 4 below shows that the proportion of tribal crab catch over \$5/pound (termed “high” in Figure 4) has been slightly higher than the state commercial fleet.

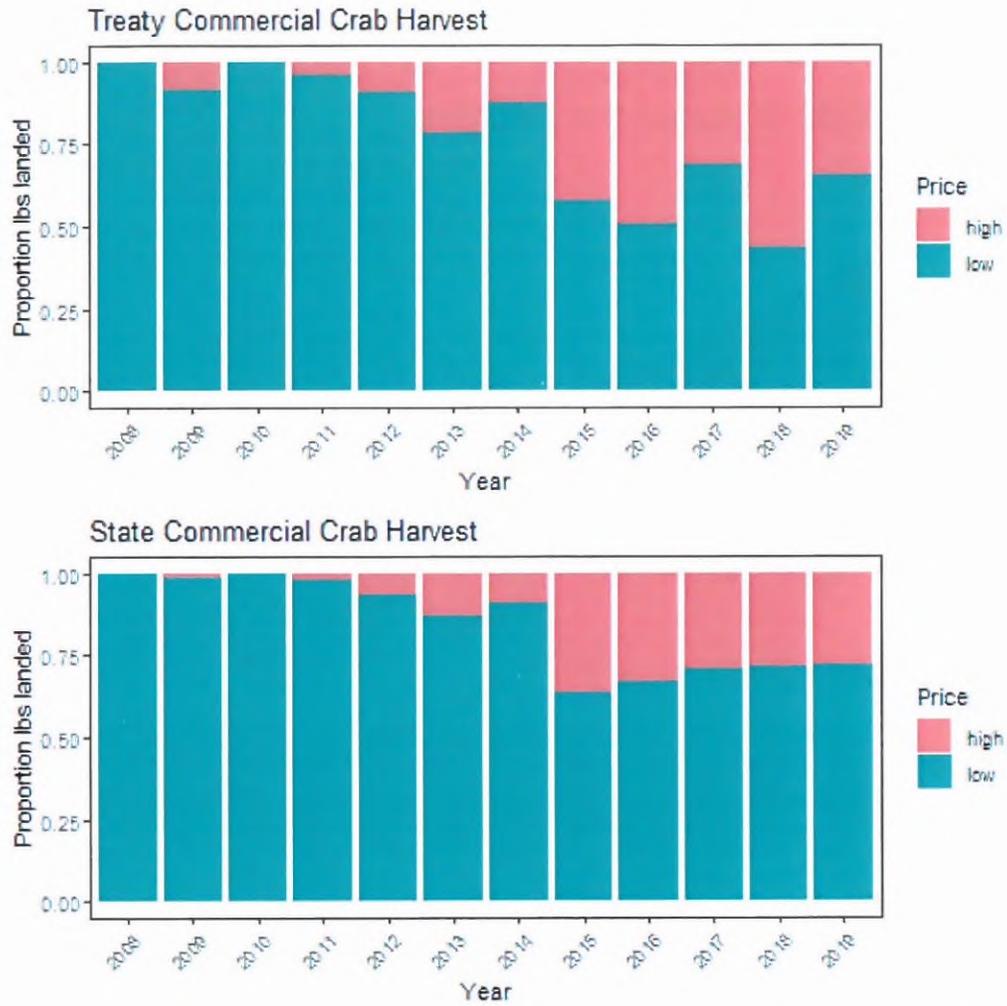


Figure 4. Proportion of crab landed by the Treaty and State Commercial fisheries by *price category* (\$5/pound or higher="high", less than \$5/pound="low) and *year*.

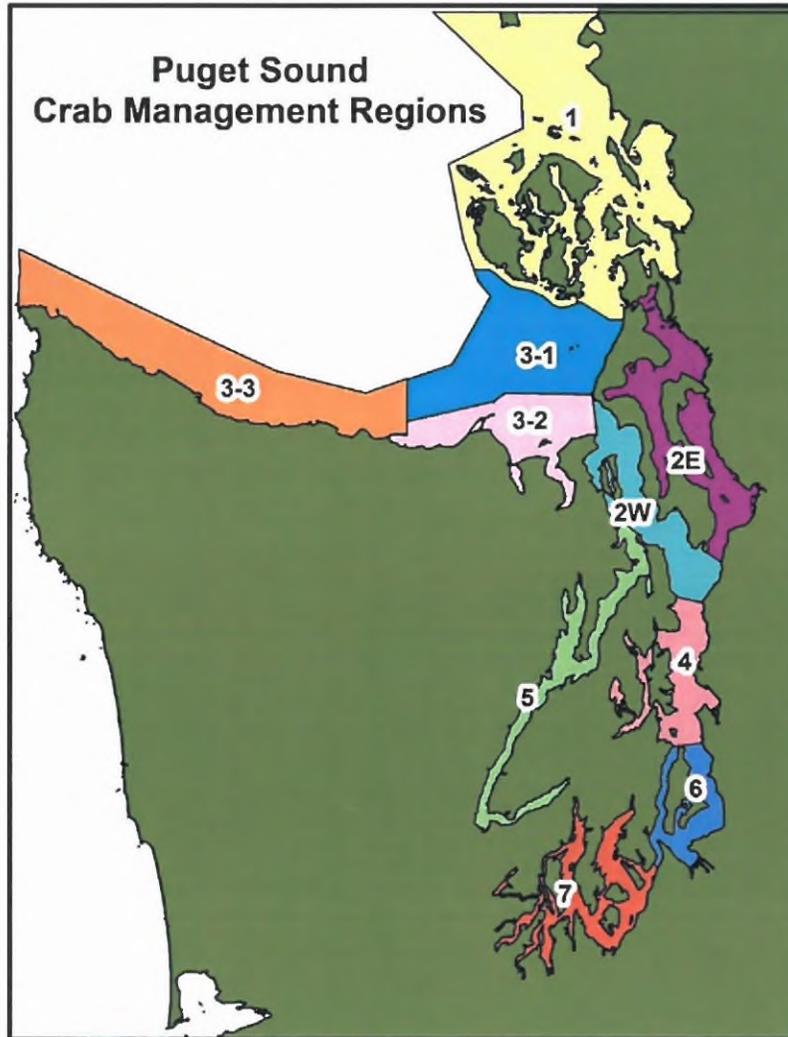


Figure 5. Crab Management Regions in Puget Sound, Washington.